

USSR

UDC: 542.65:546.289

MOROZOV, V. N. and VENEDIKTOV, A. A.

"Kinetics of Crystallization and Natural Aging in Germanium Dioxide"

Minsk, Zhurnal Prikladnoy Spektroskopii, Vol 13, No 3, September 1970, pp 549-551

Abstract: Since the broad use of GeO_2 for manufacturing new types of glass requires a detailed study of the transitions in GeO_2 for various modes of thermal processing, the authors have undertaken the experiments described in this paper. Their primary purpose is to investigate the interactions of GeO_2 in vitreous form with the atmosphere because that substance is a hygroscopic material. There is little available data in the literature on this point. The method of infrared spectroscopy was primarily used in this research. Included in the scope of the experiments was the natural aging of vitreous GeO_2 under the action of the atmosphere. As the reason for their interest in this subject, the authors cite the fact that of all the oxides of elements in the IV column of the periodic table, GeO_2 is unique in that it is readily soluble in water. In concluding, they express their gratitude to V. A. Florinskaya, V. N. Polukhin, V. A. Frank-Kamenetskiy, and G. I. Misyuk for their assistance.

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USSR

UDC 669.721.48(088.8)

BIRYUKOV, L. V., MIRONOV, A. M., SERGEYEV, V. V., POLYAKOV, Yu. A., and
ZABOYEV, Yu. I.

"Method of Processing Wastes"

USSR Author's Certificate No 273441, Filed 13/08/66, Published 7/09/70
(Translated from Referativnyy Zhurnal-Metallurgiya, No 2, 1971, Abstract
No 2 G190 P)

Translation: A method is suggested for processing wastes from the production of Mg to carnallite and Cl, including absorption of hydrogen chloride by water, absorption of chlorine by lime producing HCl and CaCl_2 , decomposition of the calcium chloride by the hydrochloric acid, producing concentrated Cl_2 and a CaCl_2 solution, addition of MgO and carbonization, separation of the MgCl_2 solution produced from the CaCO_3 , addition of spent electrolyte, and evaporation and dehydration of the solution to separate the carnallite. To increase the extraction of concentrated Cl_2 , the chlorinated CaO is decomposed at pH 2-3 at a residual pressure in the apparatus of 10-20 mm Hg, while the spent electrolyte is introduced into the MgCl_2 solution in melted form by spraying.

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USSR

UDC: 681.327

BURDONSKIY, I. N., GRISHIN, M. P., KURBANOV, Sh. M., MARKELOV, V. P., ~~SER-~~
~~GEYEV, V. V.~~, SIDORENKO, V. R., TSEREVITINOV, S. S., SHABUROVA, L. M.,
Moscow

"Computer Processing of Optical Interference Patterns"

Novosibirsk, Avtometriya, No 4, Jul/Aug 71, pp 21-26

Abstract: The paper is a report of initial experiments in using a photometric scanning system in conjunction with a general-purpose computer for analyzing halftone images (optical interference patterns). Line-scanning of the pattern was used for computer input through an analog-digital converter with 64 levels of quantization. A flowchart of the processing program is given. The results of computer processing on the Minsk-22 computer are compared with manual analysis for plasma interference patterns. Excellent agreement is observed with a time reduction of more than two orders of magnitude for machine processing. The authors thank V. S. Vaynshteyn and M. I. Pergament for taking part in the initial phase of the work. Three figures, bibliography of five titles.

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S/019/62/000/021/027/067
A156/A126

AUTHORS: Sergeyev, V. V., Sokolon, I. I., Kushkin, B. N., Bondarev, S. N.,
Titayev, I. A., Razzhivin, V. A.

TITLE: A reactor with a hood for the recovery of titanium tetrachloride
with magnesium

PERIODICAL: Byulleten' izobreteniy, no. 21, 1962, 39

TEXT: Class 40a, 46₅₀. No. 151469 (738567/22 of July 15, 1961). This
reactor with a hood for the recovery of titanium tetrachloride with magnesium
is novel in that, to preclude the formation of lower titanium chlorides and
provide for more effective heat transfer, its cover is made in the form of a
hollow shell, the bottom of which is deepened into the reactor down to the high-
temperature zone.

[Abstracter's note: Complete translation]

Card 1/1

18(5)

S/019/59/000/24/129/271
D037/D004

AUTHOR:

Lovtsov, D.P., Sergeyev, V.V.

TITLE:

A Method of Modifying Silumins ✓

PERIODICAL:

Byulleten' izobreteniy, 1959, Nr 24, p 37 (USSR)

ABSTRACT:

Class 40d, 1₅₀. Nr 125042 (612377/22 of 24 Nov 1958).

To exclude introduction of the salts of the modifiers into the smelt, the initial Silumins are treated with a constant electric current in a molten state or during crystallization.

Card 1/1

5(1)

AUTHOR:

Sergeyev, V.V.

30V/19-59-6-142/309

TITLE:

A Retort for Separating Titanium Sponge.

PERIODICAL:

Byulleten' izobreteniy, 1959, Nr 6, pp 30-31 (USSR)

ABSTRACT:

Class 40a, 46⁵⁰. Nr 118613 (586344 of 18 November 1958). To cool off the walls of the retort prior to its removal from the vacuum furnace, heat-resistant steel pipes are welded to the retort walls and connected with a water-cooled collector. The pipes are cooled by air blown through them.

Card 1/1

USSR

UDC 669.295(075.3)

SERGEYEV, V. V., et al., Metallurgiya Titana (The Metallurgy of Titanium)
2nd Edition Revised and Enlarged Izd-vo "Metallurgiya," Moscow, 1971, 320 pp

Translation of Foreword: The rapid pace in the development of technology makes it necessary to widen the application of high-quality structural materials with various properties. The number of metals and alloys used in developing new mechanisms, machines, and appliances increases year after year. Titanium occupies first place among those metals which are being used to make alloys with increased mechanical and corrosion properties and alloys capable of operating under difficult conditions. Special mechanical properties, low density, heat resistance, and stability in aggressive media give this metal and its alloys an undeniable advantage over special steels and light alloys. Titanium has attained such a strong position in technology that without it many branches, such as rocket construction, the aircraft industry, and shipbuilding, could no longer develop. Titanium is of great importance for the development of certain branches of the chemical and metallurgical industries. Improving the technology and increasing the production of titanium have helped to reduce its cost and to widen its areas of application. For this book, the authors have summarized the literature data and have used materials from their own investigations carried out at the All-Union Aluminum-Magnesium Institute. The book discusses the fundamentals of titanium production processes, analyzes the

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USSR

SERGEYEV, V. V., et al., Metallurgiya Titana, "Metallurgiya," 1971, 320 pp

chemical mechanism of the processes carried out, and describes the construction of apparatus and equipment. This is the second edition of the book. It contains many materials accumulated in the last few years. The book is intended for use as a textbook for metallurgical schools. However, various problems are given a somewhat more exhaustive treatment than would be necessary for students at technical schools. The introduction and chapters 1, 5, 6, and 7 were written by V. V. Sergeyev, chapter 2 - by V. M. Kozlov, chapter 3 - by N. V. Galitskiy, chapter 4 - by V. V. Sergeyev, V. M. Mal'shinyy, and V. A. P'yankov, chapter 8 - by V. V. Sergeyev and L. N. Neroslavskaya, chapter 9 - by V. P. Kiselev, chapter 10 - by V. V. Sergeyev and V. M. Maksimov, chapter 11 - by V. V. Sergeyev and V. V. Dikov, chapter 12 - by V. V. Sergeyev and V. A. Skorodumov. The authors thank A. A. Golubev, V. A. Shcherbakov, B. S. Gulyanitskiy, S. N. Bondarev, B. R. Osipov, and A. Ye. Andreyev for valuable remarks in connection with the manuscript. The authors also thank colleagues at the Dneprovsk, Ust'-Karencgorsk, and Bereznikovsk Titanium-Magnesium Combines for their participation in the discussion of the first edition of the book. The ideas and suggestions coming from these discussions were incorporated by the authors and will undoubtedly contribute greatly to the book.

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SERGETEV, V. V., et al., Metallurgiya Titana, "Metallurgiya," 1971, 320 pp

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SERGEYEV, V. V., et al., Metallurgiya Titana, "Metallurgiya," 1971, 320 pp

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SERGEYEV, V. V., et al., Metallurgiya Titana, "Metallurgiya," 1971, 320 pp

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SERGETEV, V. V., et al., Metallurgiya Titana, "Metallurgiya," 1971, 320 pp

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USSR

UDC 669.721.018.9.4

DIKOV, V. V., SERGEYEV, V. V.

"Refining of MgS5 Magnesium Alloy With Titanium Sponge"

Tr. Vses. N-i. i Proyechn. In-ta. Alyumin., Magn. i Elektrodn. Prom-sti [Works of All-Union Scientific Research and Planning Institute of the Aluminum, Magnesium and Electrode Industry], 1970, No. 72, pp. 150-154. (Translated from Referativnyy Zhurnal Metallurgiya, No. 5, 1971, Abstract No. 5 G202 by the authors).

Translation: The possibility is shown of almost complete removal of Fe from Mg alloy type MgS5. The content of Si, which like Fe is an impurity in this alloy, is also sharply decreased. The interaction of Ti with the alloying elements of type MGSS alloy (Mn, Al, and Zn) is less effective. The Ti slightly decreases the concentration of Mn in the alloy, while the concentrations of Al and Zn are practically unchanged. This method of refining can be used for type MGS1-MGS6 alloys. Refining of these alloys with Ti increases their corrosion resistance. 3 tables, 5 biblio refs.

1/1

1/2 017
UNCLASSIFIED
TITLE--METHOD OF MONITORING THE MAGNETIC PROPERTIES OF DIAMETRICALLY
MAGNETIZED IRON ALUMINUM MAGNETS -U-
AUTHOR-(02)-ZAMOSHKINA, N.P., SERGEYEV, V.V.
PROCESSING DATE--13NOV70
COUNTRY OF INFO--USSR
SOURCE--ZAVOD. LAB., 1970, 36, (1), 44-46
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS, PHYSICS
TOPIC TAGS--IRON ALUMINUM ALLOY, MAGNETIC METAL, MAGNETIC PROPERTY,
PERMANENT MAGNET MATERIAL, MAGNETIZATION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FKAME--2000/0359
STEP NO--UR/0032/70/036/001/0044/0046
CIRC ACCESSION NO--AP0124116
UNCLASSIFIED

2/2

017

CIRC ACCESSION NO--AP0124116

UNCLASSIFIED

PROCESSING DATE--13NOV70

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. AN IMPROVED METHOD OF MONITORING THE MAGNETIC CHARACTERISTICS OF DIAMETRICALLY MAGNETIZED PERMANENT MAGNETS MADE OF FE, AL ALLOYS UNDER CONDITIONS CLOSELY APPROXIMATING THOSE ENCOUNTERED IN SERVICE IS PROPOSED AND THE RESULTS OF SOME PRACTICAL TESTS ARE PRESENTED AND ANALYSED. THE INTENSITY OF THE MAGNETIC FLUX, DULY REFERRED TO THE DIMENSIONS OF THE GROUND AND POLISHED MATERIAL AND TAKING ACCOUNT OF LOSSES IN THE MEASURING SYSTEM, CONSTITUTES A CONVENIENT MONITORING CRITERION.

UNCLASSIFIED

USSR

UDC 669.295.053.28

SERGEYEV, V. V., and MAL'SHIN, V. M.

"Standard Process of Producing Titanium Sponge"

Sb. tr. Vses. n.-i. i proyekt. in-t titana (Collection of Works of the All-Union Scientific Research and Design Institute of Titanium), 1970, 2, pp 56-59 (from RZH-Metallurgiya, No 11, Nov 70, Abstract No 11G152)

Translation: The basis and selection of the process parameters for Ti sponge production, which are subject to standardization, are presented. The criteria of standardization -- the coefficient of dispersion of the parameters of the cycle and quality indicators -- are proposed. A description is given of the results of experimental-industrial investigations regarding the standardization of cycles in producing Ti sponge. High-quality, highly homogeneous Ti sponge is produced in standard cycles. 2 tables. Authors' abstract

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USSR

UDC 537.533.2+537.534

PETROV, N. N., SERGEYEV, YE. A.

"Emission of Charged Particles From Certain Dielectrics Caused by 0.2-30 kev Hydrogen Ions"

Tr. Leningr. politekhn. in-ta (Works of Leningrad Polytechnical Institute), 1970, No 311, pp 89-93 (from RZh-Fizika, No 12(I), Dec 70, Abstract No 12Zh661)

Translation: Information is presented on ion-electron and ion-ion emissions from glass, ceramics, and NaCl and KBr single crystals bombarded by H_1^+ , H_2^+ , and H_3^+ ions. It was shown that at ion energies of 10 kev, the knocking out of electrons from glass and ceramics was of the same order as from undegassed metals and approximately 4 times greater than from pure Mo. From NaCl and KBr crystals the knocking out was normal to the surface along the (001) axis and the knocking out of electrons was an order of magnitude greater than emission from pure metals. The ion-ion emission was a maximum at ion energies of several kev, and the coefficient K reaches values of 0.7-0.8 for NaCl and KBr crystals bombarded by H_3^+ ions. 16 references. Abstract.

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USSR

UDC 613.68(98)

SERGEYEV, Ye. P., MATSEVICH, L. M., and REZINA, Yu. I., Institute of Water Transport Hygiene, USSR Ministry of Health, Moscow

"Current Problems in the Work Hygiene of Seamen Under Arctic Conditions and Some Ways of Solving Them"

Moscow, Gigiyena i Sanitariya, No 7, 1973, pp 12-16

Abstract: A variety of factors are stressful and a threat to the health of seamen and officers on ice breakers and merchant ships plying Arctic waters. These include insufficient ultraviolet light (due to cloudiness, frequent fogs, and cold which keeps the men indoors much of the time), constant high noise and vibration levels, excessive heat and inadequate ventilation in some work areas, high-frequency and ultrahigh-frequency electromagnetic fields produced by radionavigation apparatus, need for constant alertness to avoid colliding with other ships in a convoy or hitting an iceberg, and disruption of circadian rhythms because of changing work shifts. Rearranging work and rest routines, installation of air conditioning equipment, redesign of portions of the ship's interior, and shortening the duration of cruises are some of the measures recommended to improve the situation.

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USSR

BABENKO, Z. I., VOYTENKO, A. N., LINNIK, L. I., PERMYAKOVA, H. M.,
SERGEYEV, YE. V., Ukrainian Scientific Research Institute of Plant
Protection, Kiev, Ukrainian Academy of Agricultural Sciences

"Study of the Acaricidal Properties of 1,1-Diphenyl-2,2,2-trichloro-
ethanol"

Moscow, Khimiya v Sel'skom Khozyaystve, Vol 8, No 6, Jun 70, pp
42-43

Abstract: The compound 1,1-diphenyl-2,2,2-trichloroethanol (I) is
an analogue of a known acaricide, kel'tan, a long lasting contact
agent. The effect of (I) on the mites Tetranychus urticae and
Tetranychus viennensis Zacher was studied under laboratory and
field conditions, respectively. In laboratory experiments (I) was
slightly less effective than kel'tan. The opposite held true for
the field tests: 90% of the mites had died by the second day when
treated with (I), but only 48% died in three days when treated with
kel'tan. After 15 days of treatment the activity of both compounds
equilibrated with the number of surviving mites remaining; around
10%. Phytotoxic properties of both compounds were about the same.
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USSR

UDC 621.039.5(47+57)

SERGEYEV, Yu.

"Small and Medium Scale Reactors for Remote Regions of the USSR"

Moscow, Sovrem. Probl. Osvoyeniya Severa SSSR (Contemporary Problems in the Conquest of the North in the USSR - Collection of Works), Moscow University Press, 1970, p.60-76 (from Referativnyi Zhurnal - Thermal Power, #5, May 71, Abstract No. 501 by A. M. Bovshovskiy

Translation: The basic requirements for low power atomic energy sources are explained, and the economic advantages of developing atomic energy in remote regions of the USSR are analyzed, as are the possible types of reactors (R) for use in these regions. Using such atomic power stations as the TES-3 Arbus, VK-50 and the Bilibinsk ATEKs, the advantages, drawbacks and problems of using reactors of the VVER (water moderated water cooled power reactor), boiling water and water-graphite channel types are considered. The planning characteristics, economics and characteristics of the improved ABV-1.5 atomic power station with a 12 megawatt VVER are considered in detail. This atomic power station is produced in two models with dual reactors and dual turbines (heating plants) and with a single reactor and single turbine. Four illustrations, two tables, 16 bibliographic entries.

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USSR

UDC: 51

BESHENKOVSKIY, B. L., SERGEYEV, Yu. A., VOLYNETS-RUSSET, E. Ya.

"Problems of Determining the Effect on the National Economy Resulting From the Acquisition of Licenses in Associated Sectors"

Problemy opredeleniya narodnokhozyaystvennogo effekta ot priobreteniya litsenziy v sopryazhennykh otraslyakh Tr. TsNII patent. inform. i tekhn.-ekon. issled., ser. 2 (cf. English above. Works of the Central Scientific Research Institute of Patent Information and Technical-Economic Research, Series 2), Moscow, 1971, 106 pp, ill. 30 k. (from RZh-Kibernetika, No 1, Jan 72, Abstract No 1V883 K)

Translation: An analysis in the spirit of an intersectoral balance sheet.

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UDC 621.039.5(47+57)

USSR

SERGEYEV, YU. A.

"Small and Medium Reactors for Remote Regions of the USSR"

Sovrem. probl. osvoyeniya Severa SSSR -- V sb. (Modern Problems of Mastering the Northern Part of the USSR -- Collection of Works), Moscow, Moscow University, 1970, pp 60-76 (from RZh-Elektrotehnika i Energetika, No 5, May 1971, Abstract No 5U1)

Translation: The basic specifications for low-power atomic power sources are discussed, and the economic prerequisites of development of atomic power engineering in the remote regions of the USSR and possible types of reactors for use in these regions are analyzed. In the example of such atomic electric power plants as the TES-3, the Arbus, the VK-50 and also the Bilibinskiy ATEs [Atomic Heat and Electric Power Plant], the advantages, deficiencies and problems of using plants with the VVER [water moderated, water cooled] type reactor, boiling reactors and water-graphite channel-type reactors are investigated. The design characteristics, economics and the characteristics of the improved ABV-1.5 atomic electric power plants with a 12 megawatt water-cooled, water-moderated reactor are discussed in detail. This atomic electric power plant has been developed in two versions: with two reactors and two turbines (heat) and with one reactor and one turbine. There are 4 illustrations, 2 tables and a 16 entry bibliography.

UDC 533.92:621.039.61

USSR

(12)
ALEKSIN, V. F., BIRYUKOV, O. V., VISHNEVETSKIY, V. N., GEORGIYEVSKIY, A. V.,
GROT, Yu. I., DIKIY, A. G., ZISER, V. Ye., KITAYEVSKIY, L. KH., KONOTOP,
P. I., POGZHEV, D. P., PELETNINSKAYA, V. G., SERGEYEV, Yu. F., SMIRNOV,
V. G., SUPRUNENKO, V. A., TOLOK, V. T., and TARAN, V. M.

"Development and Synthesis of the "Uragan" Stellarator and Investigation
of Magnetic Surfaces of High Shear"

Kiev, Fizika Plasmy i Problemy Upravlyayemogo Termoyadernogo Sinteza
(Plasma Physics and Problems in Controlled Thermonuclear Synthesis --
collection of works) "Naukova dumka," No 3, 1972, pp 73-112

Abstract: After an initial section devoted to a review of the literature
on the magnetic surfaces of toroidal stellarators and the principles of
stellarators in general, the authors analyze the "Uragan" specifically.
In particular, this paper is concerned with the problems involved in
choosing the parameters of the magnetic system for the racetrack stel-
larator to obtain magnetic surfaces with high shear. This last term is
defined as the extent of crossing of the magnetic lines of force. The
synthesis and adjustment of the magnetic system are also examined, and
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USSR

ALEKSIN, V. F., et al., Fizika Plasmy i Problemy Upravlyayemogo Termoyadernogo Sintez, "Naukova dumka," No 3, 1972, pp 73-112

the results are given of an investigation into the instrument's magnetic surfaces. Computations worked out on an electronic computer for the design of the magnetic system are described, and differences between the "Uragan" and the "Sirius" stellarators are indicated. A comparative table of the parameters for various types of stellarator is given; it shows that the "Uragan" is one of the more powerful thermonuclear machines, with a high shear value for its substantial 10 koersted magnetic field intensity. This article is liberally illustrated with photographs and line drawings and has a bibliography of 51 titles.

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UDC 533.92:621.039.61

USSR

ALEKSEIN, V. F., BIRYUKOV, O. V., VISHNEVETSKIY, V. N., GEORGIYEVSKIY, A. V., GROT, Yu. I., DIKIY, A. G., ZISER, V. Ye., KITAYEVSKIY, L. Kh., KONOTOP, P. I., POGOSHEV, D. P., PELETNINSKAYA, V. G., SERGEYEV, Yu. P., SMIRNOV, V. G., SUPRUNENKO, V. A., TOLOK, V. T., TARAN, V. M.

"Development and Production of the Magnetic System of the 'Uragan' Stellarator and a Study of Magnetic Surfaces With Large Shear"

Fiz. plazmy i probl. uprav. termoyader. sinteza. Resp. mezhved. sb.
(Plasma Physics and Problems of the Controlled Thermonuclear Fusion. Republic Interdepartmental Collection), 1972, No. 3, pp 73-112 (from RZh-Fizika, No 11, Nov 72, Abstract No 11G279)

Translation: This paper concerns the study of the magnetic system of the three-loop "Uragan" stellarator-racetrack. Considerations concerning the selection of optimal parameters of the magnetic system of the stellarator are discussed. The equipment of the "Uragan" is briefly described. An experimental study of the magnetic surfaces made with the aid of low-energy electron beams showed that in the "Uragan" stellarator-racetrack with

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USSR

ALEKSIN, V. F., et al, Fiz. plazmy i probl. upravl. termoyader. sinteza.
Resp. mezhved. sb., 1972, No. 3, pp 73-112

individually controlled cylinders there are closed magnetic surfaces with high shear values (~ 0.09) and angle of rotational conversion ($\sim 240^\circ$). The experimental data are compared with calculated values obtained on the BESM-6 computer.

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1/2 014 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--PHOTOIONIZATION OF ETHYL HALIDE VAPORS --U-
AUTHOR--(03)-AKOPYAN, M.YE., SERGEYEV, YU.L., VILESOV, F.I.
COUNTRY OF INFO--USSR
SOURCE--KHIM. VYS. ENERG. 1970, 4(3), 213-19
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--PHOTOIONIZATION, CHLORINATED ALIPHATIC COMPOUND, BROMINATED
ORGANIC COMPOUND, IODINATED ORGANIC COMPOUND, HALIDE, ALKYL RADICAL
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY FICHE NO----FD70/605012/D05 STEP NO--UR/0456/70/004/003/0213/0219
CIRC ACCESSION NO--AP0140291
UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--04DEC70

2/2 014

CIRC ACCESSION NO--AP0140291

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. A MASS SPECTROMETER EMPLOYING MONOCHROMATIC LIGHT FLUX OF ENERGY UP TO 14 EV WAS USED TO STUDY PHOTOIONIZATION OF ETI, ETBR, AND ETCL VAPORS. ANAL. OF POTENTIALS OF THE STUDIED MOLS. AND THE EXCITATION ENERGIES OF THE FORMED IONS. PREDISSOCN. TAKES PLACE IN THE REGION BETWEEN THE FIRST TWO IONIZATION POTENTIALS AND AT 11-12 EV. THE APPEARANCE POTENTIALS OF METASTABLE IONS AND THE MECHANISMS OF THEIR FORMATION ARE GIVEN. FACILITY: NAUCH.-ISSLED. FIZ. INST., LENINGRAD. GOS. UNIV. IM. ZHDANOVA, LENINGRAD, USSR.

UNCLASSIFIED

UDC 621.791.01:62-403.64

USSR

SERGEYEV, Yu. Ye. (Cand. of Techn. Sciences) and SEKRETAREVA, E. S.
(Engineer), Ufa Aviation Institute imeni S. Ordzhonikidze

"Effect of the Welding Process Parameters on the Geometrical Dimensions of
Weld Joints on Articles of Curvilinear Shape in the Vertical Plane"

Moscow, Svarochnoye proizvodstvo, No 6, June 72, pp 23-25

Abstract: Current, welding speed, and the angle of slope of the shape are shown to have the highest effect on weld joint dimensions in argon tungsten-arc welding of articles of curvilinear shape in the vertical plane. The changes in arc voltage and angle of slope of the electrode must be limited primarily for maintaining normal shielding conditions of the weld pool with argon and normal feed of filler wire. Changes in the process parameters for obtaining a quality weld joint require high-precision automatic control of these parameters; the effect of the uncontrolled angle of slope of the article on the weld dimensions must be counterbalanced by corrections of the controlled parameter as a function of this angle (for example, current or welding travel rate). The results of this study may be utilized in designing automatic control systems for welding articles of intricate shape with root openings and excess of abutting edges held within permissible limits (according to instructions). (6 illustrations, 2 tables, references)
1/1

- 77 -

UDC 621.791.037

USSR

SHNAYDER, B. I., Institute of Electric Welding imeni Ye. O. Paton, SERGEYEV, Yu. Ye., VERBITSKIY, V. G., GETSONOK, A. L., and YAKOVLEV, G. Kh., Ufa Aviation Institute imeni S. Ordzhonikidze

"Controlling Automatic Tungsten Electrode Argon Arc Welding of Thin-Sheet Parts with Curvilinear Contours"

Kiev, Avtomaticheskaya Svarka, No 12, Dec 70, pp 15-18

Abstract: Welding of parts with curvilinear contours such as those used in the manufacture of piping and nozzles, is a process which can best be done automatically. The seams in this type of welding are curved, in the vertical plane, and the parameters controlled in the welding process are the length of the arc, the welding rate consisting of a horizontal and vertical component, the angle of inclination of the electrode to the profile, and the angle of inclination of the part profile along the seam line relative to the horizontal plane. If this last factor is not controlled, its effect on the quality of the seam must be compensated by correcting the welding rate or the current. The authors found also that in the development of an automatic control system of arc welding, the inertia of the arc must be

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USSR

SHNAYDER, B. I., et al, Avtomaticheskaya Svarka, No 12, Dec 70, pp 15-18
taken into account. Results obtained in the article were produced through
the automatic AGK-1 welding machine.

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- 65 -

UDC 541.6:547.1'118

USSR

ARBUZOV, B. A., SO OKINA, T. D., VINOGRADOVA, V. S., and ~~SPAGNYEVA, G. N.~~
Chemical Institute Imeni A. M. Butlerov, Kazan State University Imeni V. I.
Ul'yanov-Lenin

"Structures of the Reaction Products of Some α, β -Unsaturated
Carbonyl Compounds With Trimethylphosphite and Tri(dimethylamino)-Phosphine"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 4, Apr 72,
pp 865-871

Abstract: Trimethylphosphite reacts with 1,3-diphenyl-5-benzalbarbituric acid at -14° yielding a 1:1 addition product with bipolar structure which isomerizes easily to a methyl ester of the enol form of Δ -(1,3-diphenylbarbituryl-5)-benzylphosphonic acid dimethyl ester (I). The latter forms when the reaction is carried out at room temperature. Hydrolysis of (I) yields an enol form of a dimethylester of Δ -(1,3-diphenylbarbituryl-5)-benzylphosphonic acid. Reaction of tri(dimethylamino)phosphine with 1,3-diphenyl-5-benzalbarbituric acid yields a 1:1 crystalline addition product with a bipolar ionic structure. Dipole moment values and UV spectral parameters of a series of bipolar ions obtained from tri(dimethylamino)phosphine are reported.

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1/2 052

UNCLASSIFIED

PROCESSING DATE--23OCT70

TITLE--EXPERIMENTAL STUDY OF NON STATIONARY HEAT TRANSFER BETWEEN METAL
SPHERES AND A FLOW OF LIQUID AT CONSTANT TEMPERATURE -U-

AUTHOR--(03)-LYKOV, A.V., SMOLSKY, B.M., SERGEYEVA, L.A.

COUNTRY OF INFO--USSR

SOURCE--INZH. FIZ. ZHUR., JAN. 1970, 18, (1), 12-10

DATE PUBLISHED----JAN70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--HEAT TRANSFER COEFFICIENT, SPHERIC SHELL STRUCTURE, ALUMINUM,
BRASS, COPPER, LEAD, THERMAL CONDUCTIVITY, FLUID FLOW

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1992/0378

STEP NO--UR/0170/70/000/018/0012/0020

CIRC ACCESSION NO--AP0111571

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--230CT70

2/2 052
CIRC ACCESSION NO--AP0111571
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE UNDERLYING THEORETICAL
PRINCIPLES OF A METHOD OF DETERMINING THE COEFF. OF NON STATIONARY HEAT
TRANSFER BETWEEN SPHERICAL METAL SAMPLES AND A FLOW OF WATER OR OTHER
LIQUID AT CONSTANT TEMP. ARE EXPLAINED AND SOME EXPERIMENTAL RESULTS
OBTAINED FOR AL, CU, PB, AND BRASS SPHERES ARE PRESENTED. THE NON
STATIONARY HEAT TRANSFER COEFF. VARIES CONSIDERABLY WITH TIME, IN
ADDITION TO BEING A FUNCTION OF THE THERMO PHYSICAL PARAMETERS OF THE
SAMPLE METAL. SOME GENERALIZED CURVES REPRESENTING THESE RELATIONSHIPS
ARE PRESENTED.

UNCLASSIFIED

1/2 027
TITLE--GROWTH AND STRUCTURE OF MONOKRISTALLINE FILMS OF A PRIMEII 8
PRIMEVI COMPOUNDS -U-
AUTHOR--(05)--KALINKIN, I.P., MURAVYEVA, K.K., SERGEYEW, L.A., ALESKOWSKY,
V.B., BOGOMOLOV, N.S.
COUNTRY OF INFO--USSR
SOURCE--KRISTALL UND TECHNIK, 1970, VOL 5, NR 1, PP 51-59
DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS, MATERIALS

TOPIC TAGS--SINGLE CRYSTAL FILM, SELENIDE, TELLURIDE, ZINC COMPOUND,
CADMIUM SULFIDE, GERMANIUM, GALLIUM ARSENIDE, CHALCOGENIDE GLASS,
EPITAXIAL GROWTH, SURFACE FILM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1998/0417

STEP NO--GE/0109/70/005/001/0051/0059

CIRC ACCESSION NO--AP0121091

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--23OCT70

2/2 027

CIRC ACCESSION NO--AP0121091

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN VACUUM 10 PRIME NEGATIVE4-10
PRIME NEGATIVES TORR MONOCRYSTALLINE THIN LAYERS OF CDS, CDSE, CDTE,
ZNS, ZNSE, ZNTE WERE PREPARED ON MICA, (111) SURFACES OF GERMANIUM AND
GALLIUM ARSENIDE SINGLE CRYSTALS AND (0001) AND 1120) CADMIUM SULPHIDE
SURFACES. THE FILM STRUCTURES AND SOME OF THEIR PROPERTIES
(CONDUCTIVITY, N OR P MOBILITIES) WERE SHOWN TO DEPEND ON TEMPERATURE
CONDITIONS OF FILM PREPARATION. IT WAS SHOWN EXPERIMENTALLY THAT IN THE
CASE OF MONOCRYSTALLINE THIN FILMS OF ZINC AND CADMIUM CHALCOGENIDES
THERE IS A CORRELATION BETWEEN EVAPORATION AND EPITAXY TEMPERATURES OF
FILM PREPARATION. STRUCTURE AND PHASE COMPOSITION OF MONOCRYSTALLINE
LAYERS ARE CONNECTED WITH THE NATURE OF SUBSTRATE SUBSTANCES USED
(INCLUDING POLARITY OF (111) DIRECTION IN GALLIUM ARSENIDE AND (0001)
DIRECTION IN CADMIUM SULPHIDE).
TECHNOLOGY LENSOVIETA, LENINGRAD.

FACILITY: INSTITUTE OF

UNCLASSIFIED

1/3 013
UNCLASSIFIED
PROCESSING DATE--23OCT70
TITLE--EPITAXIAL GROWTH OF OXYCOMPOUNDS ON THE SURFACE OF SINGLE
CRYSTALLINE FILMS AND SINGLE CRYSTALS OF A PRIMEII B PRIMEVI -U-
AUTHOR--(04)--SERGEYEW, L.A., KALINKIN, I.P., ALESKOVSKY, V.B.,
NECHIPORENKO, A.P.
COUNTRY OF INFO--USSR
SOURCE--KISTALL UND TECHNIK, 1970, VOL 5, NR 1, PP 61-72
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS
TOPIC TAGS--EPITAXIAL GROWTH, SINGLE CRYSTAL FILM, CADMIUM COMPOUND, OXIDE
CONTROL MARKING--NO RESTRICTIONS,
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1998/0410
STEP NO--GE/0109/70/005/001/0061/0072
CIRC ACCESSION NO--AP0121085
UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--23OCT70

2/3 013

CIRC ACCESSION NO--AP0121085

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE RESULTS OF ELECTRON DIFFRACTION INVESTIGATION OF THE COMPOSITION AND STRUCTURE OF AIR ANNEALED SINGLE CRYSTALLINE FILMS AND SINGLE CRYSTALS A PRIMEII B PRIMEVI (CDS, CDSE, CDTE) ARE REPORTED. A PRIMEII B PRIMEVI SINGLE CRYSTALLINE FILMS WERE GROWN BY DEPOSITION FOR VAPOUR ON ORIENTING SUBSTRATES, EITHER ON THE MICA PLANE (001) OR THE NaCl (111) PLANE, WITH WURTZITE STRUCTURE (CDS SUBW.CDSE SUBW). SPHALERITE (CDS SUBS.CDSE SUBS.CDTE SUBS) OR THAT OF ROCK SALT (CDS SUBNaCl). THE LATTICE DIMENSIONS A OF CDS SUBNaCl SINGLE CRYSTALLINE FILMS GROWN ON MICA BY EPITAXIAL GROWTH METHOD WERE FOUND TO BE 5.6 ANGSTROM. IT WAS SHOWN THAT SINGLE CRYSTALLINE LAYERS OF OXYCOMPOUNDS PART OF WHICH POSSES FORMERLY UNKNOWN MODIFICATIONS OF THE HEXAGONAL STRUCTURE WITH THE PARAMETERS A EQUALS 3.3 ANGSTROM C EQUALS 5.25 ANGSTROM A EQUALS 5.5 ANGSTROM C EQUALS 7.0 ANGSTROM A EQUALS 5.3 ANGSTROM C EQUALS 7.0 ANGSTROM WERE FORMED ON THE SURFACE OF LAYERS OF COS WHEN THE LATTER WERE ANNEALED. CHEMICAL ANALYSIS OF ANNEALED CDS FILMS ENABLED SINGLE CRYSTALLINE SUBSTANCES WITH LATTICE DIMENSIONS A EQUALS 3.3 ANGSTROM, C EQUALS 5.25 ANGSTROM TO BE IDENTIFIED AS POLYMORPHOUS HEXAGONAL CADMIUM OXIDE MODIFICATION. EXPITAXIAL LAYERS OF CDO SUBHEX AND CDO SUBNaCl WERE ALSO OBSERVED ON SINGLE CRYSTALS OF CDS AFTER ANNEALING IN AIR. IN ORDER TO FIND OUT THE MECHANISM OF OXYCOMPOUNDS GROWTH THE EFFECT OF CERTAIN FACTORS ON THE STRUCTURE, COMPOSITION AND ELECTROPHYSICAL PROPERTIES (SPECIFIC RESISTANCE OMICRON, MOBILITY OF CHARGE CARRIERS MU) OF INITIAL AND ANNEALED FILMS WAS INVESTIGATED.

UNCLASSIFIED

3/3 013
CIRC ACCESSION NO--AP0121085
ABSTRACT/EXTRACT--FACILITY:
LENINGRAD.

UNCLASSIFIED

PROCESSING DATE--23OCT70

INSTITUTE OF TECHNOLOGY LENSOVIETA,

UNCLASSIFIED

L/2 030 UNCLASSIFIED PROCESSING DATE--09OCT70
TITLE--GROWTH AND STRUCTURE OF SINGLE CRYSTAL FILMS OF CADMIUM AND ZINC
CHALCOGENIDES -U-
AUTHOR--(05)-MURAVYEVA, K.K., KALINKIN, I.P., SERGEYEVA, L.A., ALESKOVSKIY,
V.B., BUGOMOLOV, N.S.
COUNTRY OF INFO--USSR
SOURCE--IZV. AKAD. NAUK SSSR, NEORG. MATER. 1970, 6(3), 434-40
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS, PHYSICS
TOPIC TAGS--MICA, CADMIUM, ZINC, SINGLE CRYSTAL FILM, VAPORIZATION,
THERMAL EFFECT, MOLECULAR WEIGHT, SINGLE CRYSTAL GROWTH
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1994/1898 STEP NO--UR/0363/70/006/003/0434/0440
CIRC ACCESSION NO--AP0115717
UNCLASSIFIED

2/2 030

UNCLASSIFIED

PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0115717

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. BY CONDENSATION AT 10 PRIME
NEGATIVE4 MINUS 10 PRIME NEGATIVES 5 MM HG, SINGLE CRYSTAL FILMS OF CD AND
ZN CHALCOGENIDES ON MICA (MUSCOVITE), GE (N AND P TYPE), GAAS (N AND P
TYPE), AND CDS WERE STUDIED. AT AN EPITAXIAL TEMP. OF 250-300 DEGREES
THERE EXISTS A RELATION BETWEEN THE MOL. WT. OF THE CHALCOGENIDES AND
THE DIFFERENCE BETWEEN THE TEMPS. OF THE VAPORIZER AND THE SUBSTRATE.
THE CONDITIONS OF THE PREPN. OF SINGLE CRYSTAL FILMS DEPEND BUT WEAKLY
ON THE NATURE OF THE INVESTIGATED SUBSTRATES. THE PHASE COMPN. OF THE
FILMS PREPD. DEPENDS ON EPITAXIAL TEMP., CONDENSATION RATE, NATURE OF
THE ORIENTING SUBSTRATES, AND CONSTRUCTION OF THE VAPORIZER.
FACILITY: Leningrad. Tekhnol. Inst. im. Lensovet, Leningrad, USSR.

UNCLASSIFIED

1/2 026 UNCLASSIFIED PROCESSING DATE--02OCT70
TITLE--COMPARISON OF HEAT TRANSFER INTENSITY UNDER NONSTATIONARY AND
STATIONARY CONDITIONS -U-
AUTHOR--SERGEYEVA, L.A.
COUNTRY OF INFO--USSR
SOURCE--INZHENERNO-FIZICHESKII ZHURNAL, VOL. 18, FEB. 1970, P. 210-215
DATE PUBLISHED---FEB70
SUBJECT AREAS--PHYSICS, MATERIALS
TOPIC TAGS--THERMAL CONDUCTIVITY, METAL, COPPER, SPECIFIC HEAT, SPHERIC
SHELL STRUCTURE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1990/0754 STEP NO--UR/0170/70/018/000/0210/0215
CIRC ACCESSION NO--AP0108960

UNCLASSIFIED

2/2 026

UNCLASSIFIED

PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0108960
ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. DISCUSSION OF EXPERIMENTS IN WHICH NONSTATIONARY HEAT TRANSFER PROCESSES UNDER NONSTATIONARY CONDITIONS WERE STUDIED BY HEATING HOLLOW METAL SPHERES OF VARIOUS MATERIALS WITH THE SAME EXTERNAL DIAMETER BUT DIFFERENT WALL THICKNESS (TO OBTAIN DIFFERENT RATES OF SURFACE TEMPERATURE VARIATION); WHILE STATIONARY HEAT TRANSFER PROCESSES WERE STUDIED WITH THE AID OF A HEATED INTERNALLY WATER COOLED COPPER SPHERE. IT IS FOUND THAT THE NONSTATIONARY HEAT TRANSFER COEFFICIENTS DIFFER FROM THOSE OBTAINED ON THE BASIS OF CLASSICAL HEAT TRANSFER FORMULAS. THE EXPERIMENTAL DATA OBTAINED INDICATE THAT THE HEAT TRANSFER COEFFICIENT DEPENDS ON THE BULK SPECIFIC HEAT AND THE GEOMETRICAL PARAMETERS OF THE BODY. THE NUSSLETT NUMBERS OF NONSTATIONARY AND STATIONARY HEAT FLOWS ARE COMPARED.

UNCLASSIFIED

USSR

UDC: 537.311.33:548.55

MURAV'YEVA, K.K., KALINKIN, I.P., ~~SERGEYEVA, I.A.~~ ALESKOVSKIY, V.B., BOGOMOLOV, N.S., Leningrad Technological Institute imeni Lensovet, Leningrad, Ministry of Higher and Secondary Specialized Education RSFSR

"Investigation of Growth and Structure of Single Crystalline Films of Cadmium and Zinc Chalcogenides"

Moscow, Neorganicheskiye Materialy, Vol 6, No 3, 1970, pp 434-440

Abstract: The method of condensation in a vacuum of 10^{-4} - 10^{-5} mm Hg is used to grow single crystalline cadmium and zinc chalcogenide films on mica (muscovite), germanium (n- and p-types), GaAs (n- and -p-types) and CdS. It is demonstrated that with an epitaxial temperature of 250-300°C, there is a dependence between the molecular weight of the chalcogenides and the difference between the temperatures of evaporator and substrate. The single crystalline film production conditions depend little on the nature of the substrates investigated. The phase composition of the films produced depends on the epitaxial temperature, condensation rate, type of orienting substrates and evaporator design. Single crystalline films of CdSe of perfected structure with carrier mobility up to $180 \text{ cm}^2/\text{v-sec}$ were grown in a closed crucible under near-isothermal conditions.

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USSR

STASENKOVA, K. P., SKLOVSKAYA, M. L., SERGEEVA, L. G.

"Comparative Evaluation of the Toxicity of Antioxidants for Phenolic Resins"

Sb. "Toksikol. novykh prom. khim. veshchestv" (Toxicology of New Industrial Chemicals—Collection of Works), 1973, vyp. 13, Moscow, "Meditsina," pp 154-157 (from Referativnyy Zhurnal, 30F, Biologicheskaya Khimiya, No 18, 25 September 1973, Abstract No 18F1756)

Translation: A single intraperitoneal administration of 4,4'-dihydroxydiphenyl sulfide (I) and 3,5-di-tertiary-butyl-4-hydroxybenzyl methyl ether (II) to white rats was nontoxic (LD-50 for rats = 7500 and 10,000 mg/kg. respectively). Acute poisoning is characterized by a narcotic action. The cumulative properties are expressed most in the action of I. The coefficient of cumulation, determined by the method of Lim et al., was 1.26 for II. Localized action of I and II on the skin and mucous membranes of the eye was slight. No ability to penetrate into the organism through undamaged skin was found. Repeated (in the course of a month) inhalation of I in a concentration of 0.01 mg/liter and II at 0.02 mg/liter did not cause development of poisoning in the animals. Based on the results of these studies, production and use of I and II in the resin industry should be allowed.

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1/2 030 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--ADHESION OF POLYURETHANES AT LOW RATES OF EXFOLIATION -U-
AUTHOR--(03)-LIPATOV, YU.S., KUKSIN, A.N., SERGEYEVA, L.M.
COUNTRY OF INFO--USSR
SOURCE--FIZ. KHIM. MEKH. MATER. 1970, 5(6), 688-91
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--ADHESION, POLYURETHANE RESIN, COPOLYMER, FURAN, ETHYLENE
OXIDE, STEEL, BRASS, GLASS, PLASTIC COATING
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--2000/0768 STEP NO--UR/0369/70/005/006/0688/0691
CIRC ACCESSION NO--AP0124438
UNCLASSIFIED

2/2 030

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0124438

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE WORK OF ADHESION OF POLYURETHANE COATINGS WAS MEASURED. A COPOLYMER OF TETRAHYDROFURAN WITH 25PERCENT ETHYLENE OXIDE AND AN ADDUCT OF TOLYLENE DIISOCYANATE WITH TRIMETHYLPROPANE OF DIFFERENT NCO-OH RATIOS WERE USED FOR THE PREPN. OF THE POLYURETHANES. SINCE DELAMINATION OF THE FILM UNDER TENSION CONTINUED UNTIL THE ADHESION FORCES EQUALLED THE TENSION IN THE DELAMINATED FILM, THE REMAINING ADHESIVE FORCES CALCULATED PER UNIT WIDTH (1 CM) WERE IDENTIFIED AS THE "EQUILIBRIUM WORK OF ADHESION." THIS VALUES, BEING INDIPENDENT OF SECONDARY FACTORS, WAS USED IN STUDYING ADHESION. THE WORK OF ADHESION INCREASED WITH THE INCREASE IN THE CROSSLINK D. OF THE POLYMER AND DECREASED DEPENDING ON THE BASE IN THE ORDER: STEEL GREATER THAN BRASS GREATER THAN DURALUMIN GREATER THAN GLASS. FACILITY: INST. KHIM. VYSOKOMOL. SOEDIN, KIEV, USSR.

INST. ACCEPTED

1/2 018 UNCLASSIFIED PROCESSING DATE--02OCT70
TITLE--SEGMENTARY AND SUPRASEGMENTARY MECHANISMS OF THE PROTECTIVE REFLEX
PHENOMENON AT THE THORACIC LEVEL OF THE SPINAL CORD -U-
AUTHOR-(02)-SERGEYEVA, L.N., FRANKSHEYN, S.I.
COUNTRY OF INFO--USSR
SOURCE--BYULLETEN' EKSPERIMENTAL'NOY BIOLOGII I MEDITSINY, 1970, VOL 69,
NR 4, PP 44-47
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--SPINAL CORD, REFLEX, NEURON
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1988/1591 STEP NO--UR/0219/T0/069/004/0044/0047
CIRC ACCESSION NO--AP0106137
UNCLASSIFIED

2/2 018

UNCLASSIFIED

PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0106337

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PLEURAL AFFECTION PRODUCES INHIBITION OF INTERCOSTAL REFLEXES ON THE SIDE OF THE CHEST LESION. INHIBITION OF MOTOR NEURONS AT THE THORACIC LEVEL OF THE SPINAL CORD IS IMPLEMENTED BY POSTSYNAPTIC MECHANISMS. SEVERENCE OF THE SPINAL CORD AT THE LEVEL C SUB7 MINUS TH SUB1 INTENSIFIES INTERCOSTAL REFLEXES ON THE SIDE OF THE LESION TO A GREATER EXTENT THAN IT DOES ON THE INTACT SIDE. HENCE, IN THE REALIZATION OF THE PROTECTIVE REFLEX AT THE THORACIC LEVEL, APART FROM SEGMENTARY MECHANISMS, PARTAKES ALSO DESCENDING INHIBITION.

UNCLASSIFIED

USSR

UDC: 669.245:620.183

(3)

KALININA, Z. M., VERTIY, I. G., KHISMATULLINA, N. S., LONGINOV, M. F.,
SERGEYEVA, L. V., FILATOV, B. A., ARTENOVA, S. P., Chelyabinsk

"Influence of Magnesium on the Structure of Heat-Resistant Nickel-Based Alloys"

Izvestiya Akademii Nauk SSSR, Metally, No 4, Jul-Aug 73, pp 193-196.

Abstract: The influence of magnesium on the structure of nickel alloys was studied under the assumption that magnesium is concentrated primarily along the grain boundaries and in areas of other defects of the crystalline lattice. Assuming that a very slight concentration of magnesium could produce an excess of magnesium at these defect locations and thus hinder the separation of carbides and other excessive phases in these locations, facilitating their more even distribution through the entire volume of the alloy, the authors turned primary attention to the study of the influence of magnesium on the form, dispersion and nature of distribution of excess phases in the solid solution. It was found that the optimal addition of magnesium to heat resistant nickel-based alloys decreases dendritic liquation, makes the excess phases finer and facilitates their more even distribution. This

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USSR

Kalinina, Z. M., Vertiy, I. G., Khismatullina, N. S., Longinov, M. F., Sergeyeva, L. V., Filatov, B. A., Artemova, S. P., Izvestiya Akademii Nauk SSSR, Metally, No 4, Jul-Aug 73, pp 193-196.

increases the technological plasticity and long-term strength of the metal. Excess alloying or enrichment of alloys with magnesium from the slag and lining in the furnace cause an increase in local chemical heterogeneity, in turn causing the appearance of new excess phases, decreasing the melting point of the metal in the area of these phases and reducing technological plasticity.

USSR

UDC: 519.217

SERGEYEVA, L. V., TETERINA, N. I.

"A Study of the Solution of a Stochastic Equation With Random Coefficients"

Teoriya veroyatnostey i mat. statist. Mezhd. nauch. sb. (Probability Theory and Mathematical Statistics. Interdepartmental Scientific Collection), 1970, vyp. 3, pp 141-154 (from RZh-Kibernetika, No 7, Jul 71, Abstract No 7V126).

[No abstract]

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USSR

UDC 621.396.666(038.8)

KOTOUSOV, A. S., SERGEYEVA, N. I., TUBAL'TSEV, V. G.

"Device for Separating a Signal Against a Background of Focused Noise"

USSR Author's Certificate No 296214, filed 15 Nov 1968, published 9 Apr 1971
(from RZh-Radiotekhnika, No 1, 1972, Abstract No 1D62P)

Translation: A device is introduced for separating a signal against a background of focused noise executed in the form of a rejector filter tuned to the middle frequency of the noise spectrum with automatic regulation of the transmission coefficient by means of, for example, a regulatable resistor. For approximation of the noise proofness of the signal reception against a background of fading focused noise close to optimal, the input of the device is connected to the servomechanism of the resistor via a narrow band filter which separates the noise and a rectifier. The uniformity of the spectral density of the noise power at the output of the device is insured by selection of the resonance resistance of the rejector filter and the limits of variation of the regulatable resistor from the relation $(R_{oe} + R)/R > 3-4$ where R_{oe} is the resonance resistance of the rejector filter, and R is the resistance of the regulatable resistor.

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USSR

UDC 621.396.666

KOTOUSOV, A. S., SERGEYEVA, N. I., TUBAL'TSEV, V. G.

"A Device for Isolating a Signal Against a Background of Lumped Interference"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki,
No 8, Mar 71, Author's Certificate No 296214, division H, filed 15 Nov 68,
published 12 Feb 71, p 179

Translation: This Author's Certificate introduces a device for isolating signals against a background of lumped interference. The device is made in the form of a band-elimination filter tuned to the middle frequency of the interference spectrum with automatic regulation of the transmission factor by some such means as a controlled resistor. As a distinguishing feature of the patent, the device is designed to bring the interference resistance of signal reception against a background of lumped attenuating interference close to the optimum. The input of the device is connected to the controlling element of the resistor through a narrow-band filter which isolates interference, and through a rectifier. The spectral density of the interference power at the output of the device is kept uniform by selecting the resonance resistance of the band-elimination filter and the range of variation of the controlled resistor to satisfy the relationship

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USSR

KOTOUSOV, A. S., et al., Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No 8, Mar 71, Author's Certificate No 296214, division H, filed 15 Nov 68, published 12 Feb 71, p 179

$\frac{R_{oe} + R}{R} > 3-4$, where R_{oe} is the resonance resistance of the band-elimination filter, and R is the resistance of the controlled resistor.

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USSR

UDC: 8.74

5

AL'PEROVICH, E. Ye., BATISHCHEV, D. I., BASALIN, P. D., BEDNAYA, R. I.,
KOROTCHENKO, A. G., KONYUGINA, L. A., KOLDORKINA, L. R., SERGEYEVA, N. M.,
SUKHAREVA, V. A.

"SAPPOR -- a System for Automating the Process of Making Optimum Decisions"

Moscow, Kibernetich. sistemy avtomatiz. proyektir.--sbornik (Cybernetic
Automated Design Systems--collection of works), 1973, pp 29-35 (from RZh-
-Kibernetika, No 7, Jul 73, abstract No 7V633 by A. Doroshenko)

Translation: SAPPOR is a dialog system oriented for making optimum de-
cisions in the process of designing technical devices. The system is
realized on the BESM-3M computer with two memory arrays, the second
being designed for operation of a screen panel. The software of the
system is based on the modular principle and has the following modules:
1) "Model" -- for constructing the mathematical model of the object
being designed. This block is replaceable and varies depending on the
class of the object of optimization. In developing the SAPPOR, RLC cir-
cuits were taken as models. 2) "Formulation of the Problem" -- a com-
piler which prepares classes of problems formulated by the designer for

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USSR

AL'PEROVICH, E. Ye. et al., Kibernetich. sistemy avtomatiz. proyektir., 1973, pp 29-35

solution (calculating the characteristics of the object, optimizing the mathematical expectation in satisfying probability limitations, etc.). 3) "Method of Solution" -- a set of programs for finding the global minimum of an arbitrary curve, minimizing multiparameter functions and numerically solving problems in nonlinear programming. 4) "Check" -- enables following and controlling the process of finding the optimum with respect to information which may appear at the output (alphanumeric printer, screen panel) as ordered by the operator. 5) "Output of Results" -- gives the results of optimization in the form of graphs and tables on a screen panel or on paper with the use of an alphanumeric printer or a "Konsul" typewriter. The last four modules are universal and do not depend on the type of optimization object. An advantage of the SAPPOR is the possibility for operative search for the optimum decision and the combination of the designer's experience and intuition with rigorous mathematical methods. In this connection, the design process can be carried out without knowledge of computer programming and the corresponding methods of search optimization.

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- 48 -

USSR

UDC 615.371:576.851.49].012.1

GEKKER, V. D., and SERGEYEVA, N. S., Institute of Epidemiology and Microbiology
imeni Gamaleya, Academy of Medical Sciences USSR

"Preparation of Complex Chemical Typhoid Vaccine Containing O-, Vi-, and H-
Antigens"

Moscow, Zhurnal Mikrobiologii Epidemiologii i Immunobiologii, No 1, 1973,
pp 14-18

Abstract: Compound typhoid vaccine containing O-, Vi-, and H-antigens was prepared from a dry microbial mass of typhoid bacilli killed with acetone and suspended in saline to extract the active components. The suspension was centrifuged, and the supernatant fluid was decanted, dialyzed, and precipitated with 5 N trichloroacetic acid at pH 3.5. The precipitate was dissolved in distilled water and neutralized with 1 N NaOH. Finally, all NaCl was removed through dialysis, and the remaining solution was freeze-dried. Immunophoretic analysis revealed the presence of O-, Vi-, and H-antigens in the vaccine. When administered intravenously or enterally to rabbits, the vaccine is highly antigenic, inducing production of O-, Vi-, and H-antibodies. The vaccine is also highly immunogenic. The sera of rabbits vaccinated intraperitoneally with the preparation effectively protect mice infected with Vi- and W-cultures of *S. typhi*. The toxicity of the vaccine is very low.

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1/2 017
TITLE--A STUDY OF THE ANTIGENIC STRUCTURE OF S YIELDS & FORMS OF
SALMONELLAE -U-
AUTHOR--(03)-STEPANOVA, L.K., UVAROVA, R.N., SERGEYEVA, N.S.
COUNTRY OF INFO--USSR
SOURCE--ZHURNAL MIKROBIOLOGII, EPIDEMIOLOGII I IMMUNOBIOLOGII, 1970, NR 3,
PP 14-19
DATE PUBLISHED--70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--SALMONELLA, ANTIGEN, POLYSACCHARIDE, ELECTROPHORESIS
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1990/1481
CIRC ACCESSION NO--AP0109541
STEP NO--UR/0016/70/000/003/0014/0019
UNCLASSIFIED

2/2 017

CIRC ACCESSION NO--AP0109541

UNCLASSIFIED

PROCESSING DATE--13NOV70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A METHOD OF IMMUNELECTROPHORETIC ANALYSIS WAS APPLIED TO THE STUDY OF THE ANTIGENIC STRUCTURE OF SALMONELLAE IN THE PROCESS OF S YIELDS R DISSOCIATION. IT WAS SHOWN THAT WITH THE LOSS OF SPECIFIC O ANTIGEN THE ZONE OF PRECIPITATION PECULIAR TO THE PRINCIPAL COMPONENT OF THE O ANTIGEN, SLOWLY MOVING IN THE ELECTRIC FIELD, WAS LOST ON IMMUNOPHOREGRAMS. WITH THE CHANGE OF BACILLI FORM THE S TO R FORM THE RAPIDLY MOVING COMPONENT OF THE O ANTIGEN, WHICH WAS BUT WEAKLY MANIFESTED IN S FORMS, BECAME DISTINCT. THE ZONE OF R ANTIGEN PRECIPITATION WAS NOSPECIFIC, COMMON FOR ALL THE R ANTIGENS OF SALMONELLAE STUDIED. BOILING DID NOT DESTROY THE R ANTIGENS, THIS POINTING TO THEIR POLYSACCHARIDE NATURE. A SUPPOSITION WAS PUT FORWARD THAT THE PRECIPITATION ZONE OF R ANTIGENS SERVED AS A VISUAL MANIFESTATION OF THE STEM PORTION OF THE SALMONELLAE POLYSACCHARIDE.

UNCLASSIFIED

USSR

UDC 636:612

SERGEYEVA, S. P., TETERINA, A. V., and LAVROVA, T. S., All-Union Scientific Research Institute of Veterinary Virology and Microbiology, Pokrov, Vladimirskaya Oblast

"Oxidative Metabolism in Cell Cultures During Replication of Viruses"

Moscow, Sel'skokhozyaystvennaya Biologiya, Vol 6, No 4, 1971, pp 597-603

Abstract: Some parameters of the oxidative metabolism of single layer cultures of chick embryo cells and fetal pig kidney cells infected with the viruses of Newcastle disease, foot-and-mouth disease, and hog cholera were determined. It was revealed that in chick embryo cells and fetal pig kidney cells infected with viruses a prolonged and stable depression of respiration occurs and an activation of glycolysis with stimulated accumulation of lactate. To determine the dependence of viral replication on the respiratory and glycolytic activity of cells, various inhibitors of oxidative metabolism were used, none of which produced any degenerative changes in the cell culture. Glycolysis inhibitors markedly hindered the formation of lactate, did not affect cell respiration, and inhibited very significantly viral replication. It was demonstrated that glycolysis plays an important part in viral replication, but that the normal functioning of all stages of oxidative metabolism of glucose is also necessary.

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USSR

UDC 632.95

STONOV, L. D., ~~SERGEYEVA, T. A.~~ SIMONOV, V. D., SHOGAN, S. M., RADTSEV,
V. S., and TITOVA, L. H.

"Yalan -- New Herbicide for Control of Echinochloa Weeds in Rice Plantings
and Wild Oats in Wheat Plantings"

V sb. Khim. sredstva zashchity rast. (Chemical Plant Protectants -- collection
of works), Vyp 1, Moscow, 1970, pp 174-179 (from RZh-Khimiya, No 13, 10 Jul 72,
Abstract No 13N518 by T. A. Belyayeva)

Translation: Yalan (I) is a highly effective soil herbicide for the control
of millet weeds in rice plantings. Tests have been made of a 60-percent
emulsion concentrate and a 10% granulated preparation of I. The herbicidal
action of I in the soil persists for 50-100 days. Before rice is planted,
I is applied and worked in by harrow in doses of 2-6 kg/ha. For wild-oat
control, I is applied in doses of 3-6 kg/ha before wheat is planted.

1/1

Organophosphorous Compounds

USSR

3

UDC 632.954

GRAPOV, A. F., LEBEDEVA, N. V., MEL'NIKOV, N. N., SERGEYEVA, T. A., STONOV, L. D., TITOVA, L. M., and VOLKOTRUB, E. N., All Union Scientific Research Institute of Chemical Means of Plant Protection

"A New Herbicide Called Isophos"

Moscow, Agrokhimiya, No 1, 1972, pp 96-103

Abstract: Herbicidal properties of isophos-1, $\text{ClCH}_2\text{P}(\text{S})(\text{NHC}_4\text{H}_9\text{-sec.})\text{OC}_6\text{H}_3\text{Cl}_2\text{-2,4}$, and isophos-2, $\text{ClCH}_2\text{P}(\text{S})(\text{NHC}_3\text{H}_7\text{-iso})\text{OCOC}_3\text{Cl}_2\text{-2,4}$, were tested on many plants, including

cockspur grass (*Echinochloa crus-galli*), and rice grass (*Echinochloa oryzicola*), the weeds which commonly grow with rice. Application of 2-6 kg isophos-1 or isophos-2/ha killed 100% of the above weeds. The best time for application of the herbicides was before sowing of rice, or prior to its sprouting. A surface application produced the best results. Both types of isophos in 4-8 kg/ha doses were toxic to garden orache, amaranth, and white bent. Field pennycress, spring wild oat, and knotweed were of average sensitivity toward isophos.

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USSR

GRAPOV, A. F., et al., Agrokhimiya, No 1, 1972, pp 96-103

Among the cultivated plants, rice was most resistant toward this herbicide, followed by wheat, oats, and barley (most sensitive). Cotton, beans, radishes, and sunflowers are resistant to isophos, but sugar beets and flax are sensitive. Carrots were most resistant to isophos in doses of 1-4 kg/ha and tomatoes and cucumbers showed medium resistance. Isophos was 100% effective against rice grass in meadow-marshy, soddy-podzolic, and sierozem soils. It was only 83-97% effective in soils with high humus content. Effectiveness of isophos lasted for 30-100 days after application. Analysis of the soil horizons indicated that it remained mainly in the top 0-10 cm of soil. The structure of the aryl radical determines the phytotoxic properties of amides of thio- and dithiophosphonic acids. Presence of two Cl atoms in the phenyl group increases the herbicidal effects of these compounds.

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USSR

UDC 576.851.553.098

SERGEYEVA, T. I., and IVANOVA, L. G., Institute of Epidemiology and Microbiology imeni Gamaleya, Academy of Medical Sciences USSR, Moscow

"Serological Groups Within Cl. botulinum Types A and B and Their Biochemical Properties"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 7, 1973, pp 131-136

Abstract: Cl. botulinum types A and B each has been shown to consist of a number of serological groups on the basis of agglutination, precipitation, and complement fixation reactions with antisera against the H antigens. In the present study group specific H antigens -- free of somatic O antigen -- were used to induce specific anti-H antisera. On the basis of capillary precipitation tests, Ouchterlony gel diffusion tests, and indirect immunofluorescence studies it became apparent that types A and B each consists of four serological groups. These groups could not readily be demonstrated by means of commercially available antitoxins or anti-H antisera because of extensive crossreactions, which sometimes extended to Cl. sporogenes and Cl. putrificus. Multivalent anti-H antisera could be prepared which would distinguish between Cl. botulinum types A and B in immunofluorescence

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USSR

SERGEYEVA, T. I., and IVANOVA, L. G., Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 7, 1973, pp 131-136

tests, but would give a negative reaction with types C, E, and F, and with *Cl. sporogenes* and *Cl. putrificus*. The serological groups within type A could be distinguished on the basis of glycerin, galactose, and maltose fermentation. Those within type B could be distinguished on the basis of glycerin, sucrose, sorbitol, raffinose, lactose, mannitol, inulin, and maltose fermentation. The serological groups could not be distinguished on the basis of proteolytic properties when tested on ovalbumin, casein, gelatin, and litmus milk.

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USSR

UDC 911.3:616.981.551(47+57)

MATVEYEV, K. I., and SERGEYEVA, T. I.

"Means of Combatting Tetanus and Related Problems in Connection With the Elimination of Tetanus in the USSR"

V sb. Materialy XV Vses. s'ezda epidemiologov, mikrobiologov i infektsionistov, Tezisy Dokl. Ch. 1 (Proceedings of the 15th All-Union Congress of Epidemiologists, Microbiologists, and Infectious Disease Specialists, Theses Reports, Part 1 -- collection of Works), Moscow, 1970, pp 102-104 (from RZh-Meditsinskaya Geografiya, No 2, Feb 71, Abstract No 2.36.79)

Translation: The first studies of the distribution of tetanus in the Soviet Union were made in 1956. Mass immunization of the population led to a drop in the incidence of the disease in 1968, in comparison with the period of previous mass immunization, for the whole country by a factor of 3.3, in the RSFSR by a factor of 3.4, in the Ukrainian SSR by a factor of 4, in the Belorussian SSR by a factor of 5, and in the Moldavian SSR by a factor of 9. In most republics of the Soviet Union, intensive immunization of the entire population is planned within the framework of the 5-7 year plans. Realization of this program will help to reduce the occurrence of the disease in the Soviet Union to a few individual cases.

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USSR

MATVEYEV, K. I., Professor, and SERGEYEVA, T. I., Candidate of Medical Sciences

"Tetanus"

Moscow, Zdorov'ye, No 8, 1971, p 14

Abstract: Studies have shown that the incidence of tetanus in the USSR increases in a southerly direction. It is particularly prevalent in the Ukraine, Moldavia, Krasnodarskiy and Stavropolskiy krays, and Rostovskaya Oblast, among the rural population. The most effective prophylactic measures are the administration of tetanus antitoxin, which imparts passive immunity for 8 to 10 days, and inoculation of tetanus toxoid (2 injections 30 to 40 days apart and a third injection a year later, which provides active immunity for many years. Since 1960 all Soviet children have been receiving tetanus toxoid at age 5 to 6 months and, in the southern regions, all adults as well. The tetanus rate has declined markedly as a result. Efforts are now under way to extend inoculations to the entire USSR population.

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USSR

UDC:669.184.244.66

KVITKO, M. P., SERGEYEVA, T. K., FILATOV, Yu. V., SINEL'NIKOV, V. A., and
USTYUZHANIN, V. D.

"Study of the Oxygen-Fuel Process"

Proizvodstvo Chernykh Metallov [Production of Ferrous Metals--Collection of
Works], No 75, Metallurgiya Press, 1970, pp 133-142.

Translation: The possibility of increasing the thermal balance of a converter
by preliminary heating of the scrap by burning of natural gas and oil in pure
oxygen is studied on a 10 T converter. The expenditure of scrap melted using
the fuel is 21.3-34.2% of the mass of the charge metal. The losses of heat
due to chemical incompleteness of burning are estimated for various versions,
and the effectiveness of the use of various types of fuel is considered.
The utilization factor for natural gas is 24.0-86.0%, for oil 34.0-63.0%.
11 figures; 3 tables; 6 biblio. refs.

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USSR

UDC 669.71.48

PESHCHENKO, Z. I., SKOBEYEV, I. K., SERGEYEVA, V. N.

"Physical-Chemical Characteristics of Samples of Red Sludge"

Obogashch. i metallurgii polezn. iskopayemykh — V sb. (Beneficiation and Metallurgy of Minerals — collection of works), Irkutsk, 1970, pp 77-81 (from RZh-Metallurgiya, No 4, Apr 71, Abstract No 4G195)

Translation: The chemical, crystal-optical, thermal, thermogravimetric, and x-ray analyses of sludges obtained when processing bauxites from the Turgay-skoye deposit (S1) and the Severoural'skoye deposit (S2) were performed. The chemical composition (content in percentage of dried samples at 110°) of S1 and S2 was as follows: Na₂O 9.45 and 3.57, Al₂O₃ 20.74 and 14.00, Fe₂O₃ 31.14 and 41.50, SiO₂ 17.64 and 9.07, CaO 1.68 and 1.3, TiO₂ 4.84 and 3.76, loss on calcination 9.67 and 8.94, H₂O 2.21 and 0.64. The basic component of S1 is the alkaline hydroalumosilicate of the cyolite type corresponding with respect to its composition to the mineral chabazite (Ca, Na) (AlSi₂O₆)·6H₂O. Other components containing Al₂O₃ in S1 are kaolinite, gilluazite, feldspar and mica; some of the ferrous minerals; limonite, hematite, goethite and

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USSR

ESSHCHENKO, Z. I., et al., Obogashch. i metallurgii polezn. iskopayemykh --
V sb., Irkutsk, 1970, pp 77-81

hydrogoethite. The admixtures were the following: quartz, feldspar, calcite, magnetite, martite, anatase, rutile, apatite, and pyroxene. Incompletely leached hydrargillite, diaspore and bemit and caolinite in S2 are of interest for sintering. The ferrous fraction contains hematite, hydrohematite, and hydrogoethite. The admixtures are as follows: calcite, quartz, galluzite, opal, anatase, zircon, tourmaline, and amphibole. Alkaline hydroaluminates were not detected. There is 1 table and a 7-entry bibliography.

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USSR

UDC 547.26'118

MASLENNIKOV, V. P., SERGEYEVA, V. P., and SHUSHUNOV, V. A. (deceased), Gor'ki State University Imeni N. I. Lobachevskiy

"Decomposition of Organophosphoric Peroxide Compounds"

Moscow, Doklady Akademii Nauk SSSR, Vol 209, No 5, Apr 73, pp 1109-1112

Abstract: The aim of this study has been the investigation of the effect of organic fragment connected to the phosphorus atom and of the radicals on the peroxide link oxygen on the reactivity of phosphorus containing peroxides. It has been established that during the thermal decomposition of organophosphoric peroxides the primary reactions appear to be the homolytic split of the peroxide bond and rearrangement of the starting material into the isomeric product. The rate of the conversion of organophosphoric peroxides in n-nonane is independent of the type of radical connected to the phosphorus atom. The use of solvents with high dielectric permeability or those specifically reacting with the substrate results in a breakdown of the peroxide via a rearrangement.

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USSR

UDC 547.26*118

KRYSOV, V. V., MASLENNIKOV, V. P., SERGEYEVA, V. P.

"Synthesis and Some Physical and Chemical Properties of Sec-Butyl Peroxy-diethyl Phosphate"

Leningrad, Zhurnal Obshchey Khimii, Vol 42(104), No 7, Jul 72, p 1649

Abstract: The sodium salt of sec-butyl hydroperoxide reacted with diethyl chlorophosphate to give sec-butyl peroxydiethyl phosphate $(C_2H_5O)_2P(O)OCH(CH_3)C_2H_5$. The compound is easily hydrolyzed. Thermal dissociation in n-nonane at $140^\circ C$ gives a high yield of methyl ethyl ketone and diethylphosphoric acid.

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USSR

UDC 547.26.118

MASLENNIKOV, V. P., SERGEYEVA, V. P., SUKHIKH, N. G., Gor'ki State University imeni N. I. Lobachevskiy, Gorkiy, Ministry of Higher and Secondary Specialized Education RSFSR

"Decomposition of Some Phosphorus-Containing Peroxides in n-Nonane"

Leningrad, Zhurnal Obshchey Khimii, Vol 40, No 9, Sep 70, pp 2019-2021

Abstract: Di-tert-butylperoxyethylphosphonate (I) and tert-butylperoxyethylethoxyphosphonate (II), n_D^{20} 1.4288, n_D^{20} 1.001, were synthesized by the reaction of the corresponding chlorides with tert-butylhydroperoxide in pyridine. Both are colorless liquids, the first being less stable at room temperature than the second. In n-nonane solution (I) decomposes quite rapidly at 90°, while (II) just begins to decompose at 130°, yielding a series of compounds. This thermal decomposition is well described by a kinetic equation of the zero order with regard to the peroxide. Changing the specific surface of the vessel has no effect on the rate of decomposition, which points out the homogeneity of the process. Increasing the

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USSR

MASLENNIKOV, V. P., et al, Zhurnal Obshchey Khimii, Vol 40, No 9,
Sep 70, pp 2019-2021

initial concentration of the peroxides increases the reaction rate. However, the decomposition products have an effect on the reaction rate and activation energy of the process. It is proposed that decomposition of (I) and (II) occurs by a homolytic and a heterolytic mechanism concurrently.

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USSR

U DC 547.26'118

MASLENNIKOV, V. P., SERGEYEVA, V. P.

"Synthesis and Some Properties of tert-Butylperoxyphenylethoxyphosphonate"

Leningrad, Zhurnal Obshchey Khimii, Vol 40, No 8, Aug 70, p 1906

Abstract: tert-Butylperoxyphenylethoxyphosphonate (d_4^{20} 1.052, n_D^{20} 1.4852) was obtained from the reaction of sodium salt of tert-butylhydroperoxide and phenylethoxychlorophosphonate.

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USSR

UDC 621.791.1:621.574

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KHRENOV, K. K., BALAKIN, V. I., MNISHENKO, I. A., and SERGEYEVA, YU. A., Institute of Electric Welding imeni Ye. O. Paton, Academy of Sciences Ukrainian SSR; BERSUDSKIY, S. YU., and CHERNYAK, G. I., Minsk Plant of Refrigeration Units

"Cold Welding of Copper and Aluminum Tubing"

Kiev, Avtomaticheskaya Svarka, No 11, Nov 70, pp 49-50

Abstract: A new welding technology is described for aluminum and copper tubing. For aligning the mechanical properties of both aluminum and copper tubing, the latter was annealed at 600 to 800° C for 20-30 minutes up to the point of removing the work hardening. A microstructural examination of the joints performed by cold welding failed to reveal any flaws. Copper appears to preserve its coarse-grained structure (acquired after annealing) almost up to the very line of the copper-aluminum interface. The grains were slightly stretched in the direction of the metal flow. Specimens of pipes welded by the new method were mounted in two refrigeration units and subjected to laboratory tests for prolonged vibration and transportability. The continuous action of vibration damaged the condensers but failed to affect the strength of the welded joints.

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1/2 036 UNCLASSIFIED PROCESSING DATE--20NDV70
TITLE--INFRARED ABSORPTION IN COSIAS SUB2 -U-
AUTHOR-(04)-AVERKYEVA, G.K., KARYMSHAKOV, R.K., PROCHUKHAN, V.D.,
SERGINOV, M.
COUNTRY OF INFO--USSR
SOURCE--FIZ. TEKH. POLUPROV. 1970, 4(3), 591-3
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY, PHYSICS
TOPIC TAGS--IR ABSORPTION, CADMIUM COMPOUND, SILICON COMPOUND, ARSENIDE,
FORBIDDEN ZONE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1995/0393 STEP NO--UR/0449/70/004/003/0591/0593
CIRC ACCESSION NO--AP0115403
UNCLASSIFIED

2/2 036

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0116403

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ABSORPTION SPECTRUM OF CDSIAS SUB2 WITH CHALCOPYRITE STRUCTURE, GROWN FROM A SOLN. OF CDAS, WAS OBTAINED AT ROOM TEMP. AND 0.7-15 MU. THE TRANSMISSION COEFF. EXHIBITED A SHARP INCREASE AT SIMILAR TO 0.8 MU, CORRESPONDING TO THE OPTICAL WIDTH OF THE FORBIDDEN ZONE. THEREAFTER, THE TRANSMISSION COEFF. INCREASED LESS RAPIDLY, REACHING A MAX. OF 48PERCENT AT SIMILAR TO 12 MU. AT 12.8 MU ABSORPTION WAS OBSD. WHICH CAN BE RELATED TO LATTICE VIBRATIONS OR COMPLEXES. MEASUREMENTS OF ABSORPTION COEFFS. IN THE PHOTON RANGE 1.45-1.65 EV WERE MADE TO OBTAIN A MORE ACCURATE DETN. OF THE FORBIDDEN ZONE WIDTH; THE OPTICAL WIDTH OF THE FORBIDDEN ZONE IN THE LARGE ABSORPTION REGION CORRESPONDED TO AN ABSORPTION COEFF. OF 6 TIMES 10 PRIME2 CM PRIME NEGATIVE1. DOUBLE REFRACTION WAS NOTED BUT NOT MEASURED QUANT. FACILITY: FIZ, TEKH. INST. IM. IOFFE, LENINGRAD, USSR.

UNCLASSIFIED

Acc. Nr:

170048318

Abstracting Service:
CHEMICAL ABST. 5-70

Ref. Code:

4R0020

103334c Preparation of CdSiAs₂ in the vitreous state. Rot-
tovets, N. S.; Goryunova, N. A.; Prochukhan, V. D.; Ser-
ginov, M. (Fiz.-Tekh. Inst. im. Ioffe, Leningrad, USSR).
Dokl. Akad. Nauk SSSR 1970, 190(3), 619-20 [Phys Chem]
(Russ). A vitreous form of CdSiAs₂ is produced by hardening a
melt contg. stoichiometric amts. of the elements and also CdSiAs₂,
which is prepd. according to a method described by G. K. Aver-
kueva, et al. (1969). This semiconductor possesses a softening
temp. around 500°, which significantly exceeds the softening
temp. of other glasses of this type. C. J. Steinberg

pc

REEL/FRA
19800020

18

USSR

UDC: 632.95

PINAMONTA, FRANCO and MACCONE, SERGIO, Montecatini, Joint Stock Company of the Mineral and Chemical Industry (Italy)

"A Method for Preparing Liquid Insecticides"

USSR Author's Certificate No 248575, filed 23 Jul 62, published 8 Jan 70 (from RZh-Khimiya, No 22, 25 Nov 70, Abstract No 22 N659 P by P. V. Popov)

Translation: To prepare liquid concentrated preparations containing as an active insecticidal substance O,O-dimethyldithiophosphotylacetic acid monomethylamide and a surfactant, phenol, Cellosolve acetate, Carbitol acetate, and o-cresol are added to stabilize the active substance.

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USSR

UDC: 612.273

AGDZHANYAN, N.A., and SERGIYENKO, A.V., Institute of Medical and Biological Problems, Moscow

"Endurance of Acute Hypoxia After Various Periods in a Medium With a High Carbon-Dioxide Content"

Moscow, Doklady Akademii Nauk SSSR, Vol 191, No 2, May 70, pp 487-489

Abstract: Male rats were kept in a chamber atmosphere containing 6% CO₂. The endurance test, conducted daily for 7 days, and then for 6 days in normal atmosphere, consisted of the survival time of animals at simulated altitudes of 12,000 m. The survival time for controls averaged 13 minutes and 45 seconds (100%). For the CO₂ animals, the survival time at the end of the 1st day was 23 min, 42 sec (173%), for the 2nd day, 133%, the 3rd day, 137%, and the 4th day, 155%. After the 4th day, respiratory, cardiac and metabolic disturbances began to appear. On the 6th and 7th days, endurance decreased to 43-36%, with bradycardia, convulsions, disrupted temperature reactions, extracystoles, inversion of EKG waves, etc. After reversion to normal atmosphere, the endurance was still low, but gradually improved, and became almost normal on the sixth day. Results show that the endurance of acute hypoxia depends not only upon the CO₂ content, but also on the period of stay in the artificial atmosphere.

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1/2 019 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--AMINO ACID AND CARBOHYDRATE COMPOSITION OF ORGANIC MATTER IN A
TENTIAL ARCHEOCYATHEA SKELETON -U-
AUTHOR--(04)--BOBYLEVA, M.I., SERGYENKO, I., YEGOROV, I.A., FONIN, V.D.
COUNTRY OF INFO--USSR
SOURCE--DOKL. AKAD. NAUK SSSR 1970, 190(3), 725-8
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--AMINO ACID, CARBOHYDRATE, PAPER CHROMATOGRAPHY, BONE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1994/1088 STEP NO--UR/0020/70/190/003/0725/0728
CIRC ACCESSION NO--AT0115107
UNCLASSIFIED

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PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AT0115107

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. THE TITLE MATERIAL FROM FOSSILIZED SKELETAL REMAINS WAS EXAMD. BY PAPER CHROMATOG. AFTER CONVENTIONAL HYDROLYSIS. THE FOLLOWING 9 AMINO ACIDS WERE IDENTIFIED: ARGININE, HISTIDINE, THREONINE, VALINE, PHENYLALANINE; OTHERS WERE NOT IDENTIFIABLE. THE FREE AMINO ACIDS PRIOR TH HYDROLYSIS WERE THESE: ARGININE, VALINE, THREONINE, PHENYLALANINE AND LYSINE, AS WELL AS 1 SPOT THAT WAS NOT IDENTIFIED. WHEN THE RESIDUE AFTER DETECTION OF THE FREE AMINO ACIDS WAS SUBJECTED TO HYDROLYSIS IMMEDIATELY, THE ABOVE 9 PRODUCTS COULD BE FOUND, BUT IF THE FREE AMINO ACIDS WERE SEPD. FIRST, THE RESIDUE GAVE, AFTER HYDROLYSIS, THE SPOTS OF ONLY ARGININE, THREONINE, LEUCINE, AND PHENYLALANINE. FACILITY: INST. BIOKHIM. IM. BAKHA. MOSCOW, USSR.

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UDC 8.74

MASHKINA, R. V., PRACHENKO, V. D., SERGIYENKO, I. V., SEMIK, V. P., TUKALEVSKAYA, N. I.

"Automated Information Servicing and Data Processing Systems for a Library of Algorithms and Programs. Part I"

Avtomatizirovannaya sistema informatsionnogo obsluzhivaniya i obrabotki dannykh fonda algoritmov i programm. Ch. I (cf. English above), Kiev, Cybernetics Institute of the Ukrainian SSR Academy of Sciences, 1972, 204 pp, ill., 60 k. (from RZh-Kibernetika, No 12, Dec 72, Abstract No 12V472 K)

Translation: An automated information servicing and data processing system for an algorithm and program library on a computer, its program and information servicing and also the operating procedures for this system are described. In the first chapter the basic problems of developing the system, the steps in its creation and its operating conditions are discussed, and one method of combining the principles of universality and specialization providing the basis for the construction of the system is described. In the second chapter there is a description of the shape of the input and output documents of the system and the structure of the user-system communication language. The third chapter is devoted to a discussion of means of describing the system: the language of the data flow diagrams, the block-system language and the operating address

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MASHKINA, R. V., et al., Avtomatizirovannaya sistema informatsionnogo obsluzhivaniya i obrabotki dannykh fonda algoritmov i programm. Ch. I, Kiev, Cybernetics Institute of the Ukrainian SSR Academy of Sciences, 1972, 204 pp, ill., 60 k.

language for description of the system procedures. In the fourth chapter the program library for the system and the structure of its information files are described by the means discussed in the third chapter. The fifth chapter contains the problems of introduction and maintenance of the system.

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UDC 8.74

MASHKINA, R. V., PRACHENKO, V. D., SERGIYENKO, I. V., SEMIK, V. P., TUKALEVSKAYA, N. I.

"Automated Information Servicing and Data Processing Systems for a Library of Algorithms and Programs. Part II"

Avtomatizirovannaya sistema informatsionnogo obsluzhivaniya i obrabotki dannykh fonda algoritmov i programm. Ch II (cf. English above), Kiev, Cybernetics Institute of the Ukrainian SSR Academy of Sciences, 1972, 208 pp, ill., 60 k. (from RZh-Kibernetika, No 12, Dec 72, Abstract No 12V473 K)

Translation: The allocation of the system software on the information carriers and the software for the Dnepr-2 computer are presented.

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UDC 8.74

GIRYA, M. G., KUDRINSKIY, V. YU., SERGIYENKO, I. V., STUKALO, A. S.

"Input Language and Processor for Program Controlled Electronic Keyboard Computers"

V sb. Teoriya yazykov i metody postroyeniya sistem programmir. (Language Theory and Methods of Constructing Programming Systems--collection of works), Kiev-Alushta, 1972, pp 265-277 (from RZh-Kibernetika, No 12, Dec 72, Abstract No 12V482)

Translation: The input problem-oriented language PIKM (programming of engineering problems on keyboard computers) and its execution on one of the models of the program controlled keyboard computers (PEKVM) is described. It is noted that with respect to program structure the PIKM language is close to the FORTRAN language. The program in PIKM comprises the basic program and subroutines. The basic program comprises operators and descriptions separated by semicolons or auxiliary words. The descriptions can appear at any point of the program as needed. The set of descriptive media of the PIKM language is oriented toward the keyboard of the PEKVM, that is, each symbol corresponds to one key. The processor is described which executes the operation of the interpreting system. The algorithm of the interpretation system comprises three basic parts: the
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GIRYA, M. G., et al., Teoriya yazykov i metody postroyeniya sistem programmir., Kiev-Alushta, 1972, pp 265-277

algorithm for preliminary processing of the data written in the input language, the algorithm for interpreting the internal language of the program level and the algorithm for the program debugging system. The characteristic of each algorithm is presented. The bibliography has 13 entries.

USSR

SERGIENKO, I. V., STOGNIY, A. A., MITROPAN, A. P.

"System for Automated Debugging of Programs for the Dnepr-2 Control Computer"

Sistema Avtomatizirovannoy Otladki Programm dlya UVS Dnepr-2 [English Version Above], Kiev, 1972, 170 pages (Translated from Referativnyy Zhurnal, Kibernetika, No 1, 1973, Abstract No 1 V819 K).

Translation: An automated debugging system for programs written in Autocoder as realized for the Dnepr-2 computer is described. Furthermore, a method is studied for developing an automated program debugging system written in input language in general.

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UDC 8.74

SERGIYENKO, I. V.

"Problems of Organizing Computer Progress in Automated Control Systems"

V sb. Mat. obespecheniye ETsVM (Digital Computer Software -- collection of works),
Kiev, 1972, pp 245-251 (from RZh-Kibernetika, No 9, Sep 72, Abstract No 9V603)

No abstract

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USSR

UDC 621.391:519.2

SERGIYENKO, L. I.

"Effect of 'Reflected' Components on a Spectrally Limited Multiply FM Signal"

Materialy nauchno-tekhn. konferentsii. Leningr. elektrotekhn. in-t svyazi, 1970 g. Vyp. 1 (Materials of the Scientific and Engineering Conference. Leningrad Electrotechnical Communications Institute, 1970, vyp. 1), Leningrad, 1970, pp 58-62 (from RZh-Radiotekhnika, No 8, Aug 70, Abstract No 8A81)

Translation: This article contains an investigation of phase distortions caused by limitation of the spectrum of a multiple FM signal. It is proved that for the case of a multiple ratio of the carrier frequency and the modulating oscillation frequency the "reflected spectrum" does not change the nature and parameters of the signal distortion distribution law. With a multiple ratio of the carrier frequency and the modulating oscillation frequency it is recommended that transmission of the FM signal be realized without preliminary procedures of decreasing the effect of the "reflected spectrum."

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UDC 535/33/.34:539.18

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YAKUTINA, O. A., RATOVSKIY, G. V., PROLOV, YU. L., SERGIYENKO, L. M., ROZINOV, V. G., Irkutsk University, Irkutsk Institute of Organic Chemistry

"Spectral Study of the Mutual Effect of Functional Groups in Molecules of Tertiary Aromatic Phosphines"

Kiev, Teoreticheskaya i Eksperimental'naya Khimiya, Vol 7, No 4, 1971, pp 514-519

Abstract: At this time there is no single view of the reaction between structural groups within molecules of aromatic phosphines, and the various assumptions made about them lead to contradictions in the interpretation of the electron transitions.

The authors studied electron and Raman spectra for the group $(p-X_6H_4)P$, where $X = H, CH_3, OCH_3, OC_2H_5, Cl, Si(CH_3)_2$, and $N(CH_3)_2$, and also for molecules of $(C_6H_4)_3P(O)$, $(C_6H_5CH_2)_3P(O)$ and finally, $(m-NO_2C_6H_4)P(O)$.

The reaction was assumed to take place both by the $p\pi-p\pi$ transition and the $p\pi-d\pi$ transition mechanisms.

USSR

~~SERGIYENKO, LYUDMILA~~

"On Top of the Dolphin"

Moscow, Leninskoye Znamya, 14 May 72, p 4

Translation: I did not come to this laboratory of the Institute of Developmental Biology, Academy of Sciences USSR, by accident. However, having read the sign on the door -- the Laboratory for Postnatal Ontogenesis -- I lost my courage, because this sounded too serious and, to an ignorant person, totally incomprehensible. In this laboratory the postuterine development of animal life is being studied, and there I met the junior scientific worker Vladimir Solomonovich Gurevich who has been working with dolphins for a number of years.

He was making preparations for a trip, but this time not to Black Sea dolphins but to those in the Far East.

"To what is such great interest in these animals due?" I asked him.

"The Dolphin boom' began in 1961 when the American scientist John Lilly published the book Man and Dolphin. The unusual abilities of dolphins
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SERGIYENKO, LYUDMILA, Leninskoye Znamya, 14 May 72, p 4

astonished many people. Whereas previously no more than two or three dozen scientists all over the world studied them, now their number reaches hundreds. I have been working with dolphins for 6 years. I have not yet found such a rich intellect with which the American scientist endowed them. As numerous experiments have shown, this animal cannot think abstractly, although he is very compliant in training. Incidentally, the unique experiment which John Lilly set up in an attempt to teach the dolphin to speak English failed.

"The statement by this scientist who, on deciphering the records of sound signals made by the animal, allegedly heard an imitation of his laughter, some simple phrases, such as 'what is the time?' etc. also seems very doubtful (I hesitate to speak more forcefully).

Dolphins can excellently determine the quality of a material and the variety and size of a fish and work well with geometrical figures."

"It is well known that foreign firms keep dolphin fishing secret..."

"In fact, this is a very troublesome and difficult matter. We know that the Frenchman Jacques Yves Cousteau catches dolphins on a traveling wave. They

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SERGIYENKO, LYUDMILA, Leninskoye Znamya, 14 May 72, p 4

like to lie on a breaker broken by the prow of a ship. Then a gripping and a capturing device is thrown from the prow of a vessel down below. It locks the tail in a ring, and it remains only to pull the animal out of the water.

"The Italian Santini catches dolphins in an original way. He goes out into the sea on a motor boat, finds a group of dolphins, pursues them, and then cuts off the specimen he needs from the school and chases him. When he is as close to the dolphin as possible, he jumps on top of him, presses against his back, and begins to stroke him. Dolphins like very much to be stroked and prefer this caress by human hands even to a dainty fish. The soothed dolphin lets himself be laid down on a soft stretcher placed in the boat.

"In our country dolphins are caught in a net. A dolphin who has entangled himself can drown, because he breathes air. Therefore, everything depends on how quickly we pull him out of the trap. If this is done too quickly, the dolphin lapses into a state of shock from which it is extremely difficult to get him out.

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